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Hepatitis C Virus and Professional Risk in Anesthesia and Intensive Care: A Case Report

To the Editor:

Hepatitis C virus (HCV) is an RNA virus discovered in 1989, which is responsible for most non-A, non-B hepatitis.¹ HCV infection is serious; it becomes chronic in 80% of cases, leads to cirrhosis in 20%, and rarely can lead to a hepatocellular carcinoma.²⁻⁴ Transmission predominantly is parenteral. Infection due to professional exposure is thought to be unusual.⁴

Through the case of a physician infected by HCV while on duty, the authors wish to remind readers of the need for all medical staff, especially emergency room personnel, to take appropriate precautions to avoid exposure to blood-transmitted infectious diseases.

A 33-year-old male Tunisian anesthesiologist was in training abroad. He had no medical or surgical history and was HCV seronegative in April 1995. In May 1996, while on duty in the emergency room, he attended a traffic accident victim. When the patient's anti-shock trousers were taken off, a bleeding wound appeared. The physician, who already had taken his gloves off, instinctively tried to stop the bleeding with his bare hands, but his fingers had minor cuts.

Blood tests for HCV carried out on the patient were positive, and 3 months later the physician developed jaundice, asthenia, and hepatitis with serum transaminases 20 times normal. The liver ultrasound scan was negative.

Serology was negative for A, B, and E hepatitis, as well as for cytomegalovirus, human immunodeficiency virus, and herpes. Hepatitis C antibody was positive for serotype 1,

using both enzyme-linked immunosorbent assay and recombinant immunoblot assay techniques with a positive polymerase chain reaction.

Interferon therapy was started in September 1996, with 3 million units administered three times per week. After 6 months of treatment, transaminases failed to return to normal and HCV polymerase chain reaction remained positive. Ribavirine was added but without response, and treatment was interrupted after 1 year.

Blood transmission of HCV is well documented and recognized.⁵ For medical personnel, the risk of occupational infection by HCV is low but real. In most cases, it is due to accidental needlesticks. The best prevention consists in strict compliance with Universal Precautions. Healthcare workers should not engage in such hazardous maneuvers as recapping needles; it is important to provide special containers for used needles, use disposable supplies, and wear gloves, glasses, and other protective gear.^{4,6}

Hepatitis C is serious and, despite the promising results obtained through treatment by interferon, prevention remains the best and most effective protection since no vaccine is yet available.⁴⁻⁶

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Age-Specific Rates of Serological Immunity in Patients With a Negative History for Varicella Infection

To the Editor:

With the licensure of the chickenpox vaccine (Varivax, Merck & Co, West Point, PA) in March 1995, the question of the true population rate of immunity to the varicella-zoster virus (VZV) has become an important issue in designing immunization strategies. This is particularly true in hospital work forces, where a chickenpox exposure necessitates major work-force modifications.

Three recent serological studies have examined populations of hospital workers.¹⁻³ They found that from 90% to 95% of the workers were immune. They also found that from 72%¹ to 90%³ of those workers who had no history of varicella had protective antibodies to VZV. McKinney et al found age to be a significant variable.² They tested 241 hospital workers, 93 of whom were younger than 35 years. In that age group, 7 (64%) of 11 workers who had no history of VZV infection were in fact immune. All workers over age 35 who were tested were immune, whether they had a history of varicella or not. While this is a limited, nonrandom sample with small size, it would be expected to reflect the general population.

Kelley et al have studied antibody levels to many childhood illnesses in Army recruits.⁴ They found that the seronegativity rate for varicella, adjusted to the 15- to 24-year-old US population in 1980, was 6.9%. Varicella susceptibility was significantly greater in females and blacks. In an unadjusted analysis, 11.8% of the female population was seronegative, compared with 7.7% of males. Of the 1,048 recruits who had a positive history of varicella, 27 (2.6%) were negative. Of the 211 recruits who had a negative history for varicella infection, 33 (15.5%) were negative. There was a trend to higher seropositivity with older age in this group. Importantly, Kelley documented that 97.4% of people who believe they are immune to varicella are so. Thus, the issue for assuring immunity within a population or work force is what per-